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A.D. 1839 . . . . . N° 7973.

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S P E C I F I C A T I O N

OF

HERBERT READ WILLIAMS.

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TRUSSES AND SURGICAL BANDAGES.

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**Trusses and Surgical Bandages.**

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**WILLIAMS' SPECIFICATION.**

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, HERBERT READ WILLIAMS, of the City of Gloucester, Surgeon, send greeting.**

**WHEREAS** Her present most Excellent Majesty Queen Victoria, by Her Letters Patent under the Great Seal of Great Britain, bearing date at  
5 Westminster, the Twenty-first day of February, in the second year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Herbert Read Williams, Her especial license, full power, sole privilege and authority, that I, the said Herbert Read Williams, my exors, admors, and assigns, or such others as I, the said Herbert Read Williams,  
10 my exors, admors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "**IMPROVEMENTS IN TRUSSES AND SURGICAL BANDAGES ;**" in which said Letters Patent is  
15 contained a proviso that I, the said Herbert Read Williams, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be enrolled in Her said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference  
20 being thereunto had, will more fully and at large appear.

**NOW KNOW YE,** that in compliance with the said proviso, I, the said Herbert Read Williams, do hereby declare the nature of my said Invention,



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and the manner in which the same is to be performed, are fully described and ascertained in and by the following statement thereof, reference being had to the Drawings hereunto annexed, and to the figures and letters marked thereon (that is to say) :—

## DESCRIPTION OF DRAWINGS, PLATE 1.

5

Figure 1 is a front view of a truss, with centre regulating plate, loops, and swivels. *a, a,* is the pad plate, made of thin metal slightly arched on its upper side, and its edge turned down about one-eighth of an inch to receive the pad ; (*b, b,*) is the centre regulating plate ; (*c, c,*) are the metal hoops moving on swivels or centres (*d, d,*) which are either rivetted or joined by screws to 10 regulating plate ; this regulating plate is fastened on the square head of the projection, which I call the plinth (*f*), (rivetted or otherwise affixed on top of pad plate), and secured by the screw (*e*) ; (*g*) is a loop (detached) ; (*o, o,*) is a metal loop attached to the end of perineum strap, which slides on the top of the stud (*e*), and by which the pad is held in its place ; the other end of this strap 15 is passed round the thigh, and buttoned or otherwise attached to the belt on either side of the hip at *p, p*. Figure 2 is the regulating plate, with the loops *c, c,* and portions of the belt *k, k, k* ; *i* is an octagonal opening in the centre of regulating plate (*b*), by which the position of the pad is adapted to any required inclination on the square head of the plinth, and is fastened on the 20 head of the plinth (*f*) by the screw (*e*) ; *k, k, k,* are parts of the belt, which is made of any desired width, and formed of padded leather or other material, and is passed round the body about the hips, and fastened by means of the tongue (*m*), inserted through the loop (*l*), and secured on the studs *n, n*. Figures 3 and 4 are side views of the pad with springs ; (*a*) is the pad plate ; (*b*) the 25 pad ; (*c, c, c, c,*) are single and double elliptical springs acting on the upper surface of the pad, and effecting a more uniform pressure ; *d, d,* shew the position of the plinth, on the head of which the regulating plate and bolt is secured by a screw, as in Figures 1 and 2. Figures 5, 6, and 7 are three 30 other modes of attaching the belt to the regulating plate, and admitting of the same motion as the loops (Figure 1, *c, c*). Figure 8 is a Drawing of a military prophylactic belt (drawn one-third size), convertible into a double or single truss ; *a, a, a,* are portions of the belt, with regulating plate, loops, and swivels (as before described, Figure 2), and are attached by a plinth and screw to the pad (*b, b,*) and *c, c,* are the prophylactic plates, both of which are tightly 35 padded and lined with silk or other material, and are secured to the belt (*a, a,*) by the screws *e, e,* and are designed to support the parts on either groin over



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the herniary openings; the belt passes round the body (as before described), and fastened through the loop (*f*). This apparatus, Figure 8, is convertible into a single or double truss by inserting a truss pad, with or without springs, under the plates (*c, c*) and securing them by a screw, as in Figure 1 (*e*).

5 Note.—The truss pad I prefer to be composed of successive layers of cloth or padding, laid one on the other to the desired thickness, and cut to the required form and size, covered with soft leather, silk, or other material, and is attached to the inner side of the pad plate by screws or other means. And also note.—That the belt, pad, springs, and other apparatus as above  
10 described are to be modified in size or arrangement, so as to meet the peculiar position and requirements of the case, are adapted for application to any form of hernia, and also for surgical bandages intended to retain weak or distorted joints, fractured bones, for effecting pressure on arteries, or for correcting deformity.

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## DESCRIPTION OF PLATE 2.

Figure 1 is a front view of a “truss pad,” showing another mode of effecting the required inclination, vertical, oblique, or horizontal. *a, a, a, a, a*, are five holes pierced through the pad plate (*b, b*), into either of which the stem of the screw (*c*) is inserted, after securing the loop (*d*) by passing  
20 through the end of the lever (*e, e*), this lever moves on the centre stud (*f*), and the belt is attached by its plate and loops (as in Plate 1, Figures 1 and 2).

Figure 2 is a front view of the “abdominal shield.” *a, a*, are two thin springs curved inwards to the proper form of the abdomen, and rivetted to the  
25 surface of the shield (*b, b*); this shield is passed lightly inside and lined with silk or other soft material; *c, c*, is an arched spring (as seen edgewise at Figure 3), secured across the shield by the studs (*d, d*); the regulating piece and belt are attached by the plinth (*e, e*), as described in Plate 1, Figure 2.) This apparatus may be adapted for a single or double truss by inserting a pad  
30 under either or both the points *f, f*, and may be worn without the usual thigh strap.

Figure 4 is a front view of the “gentleman’s hunting belt.” This belt passes over the abdomen round each hip to the back, and the ends of the strap *a, a*, being inserted through the loops or rings *b, b*, placed on the back  
35 pad *c, c*, (as shewn at Figure 7,) are returned forward and fastened by the buckles *d, d*; *e, e*, are two thin springs stitched within the substance of the belt, and curved inwards to the form of the abdomen, and pressing closely on



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herniary passages; if required as a truss, pads are placed under *f, f*, and secured by screws or otherwise.

Figure 5 is a modification for a double or single truss. The belt, after passing round the body and through the loops or rings on the back pad, is brought forward and buckled on the pad (*a*) across the abdomen; *b, b*, are the pad screws and studs for perineum straps; *c, c*, are moveable rings through which the strap *d* passes, and regulates the distance of the pads from each other.

Figure 6, suspensary belt for ladies. *a, a*, are two light springs quilted securely into the thickness of the belt, and curved inward to effect a gentle pressure and support; *b, b*, the two ends of the belt which pass behind through the rings of the back pad, and are returned forward and laced to each side *c, c*, so as to accomodate itself to the varying circumference of the form.

Figure Seven is a view of the "back pad," with its loops or rings on centres, and showing the manner of passing the ends of each belt through the said loops or rings and forwards round the body.

## PLATE 3.

Figure 1 is a front view of the utero-abdominal shield. *a, a*, are two springs fastened on the shield, and curved inward to the required form; the shield is suitably padded on its inner side and covered with silk or other suitable material; *c, c, c*, is an elliptical spring and plinth by which to equalize the pressure on the abdomen, and on which the centre piece, loops, and tongues *d, d, d*, are secured by the plinth screw (*e*); *f, f*, are the two ends of a belt which goes round the body; *g, g*, are buckles which receive the tongues *d, d*, and fasten the shield in its place; *h* is the perineum spring, made of plated metal, carrying on its extremity the pad (*i*); this spring, after being adjusted to its required length and position, is secured by the screw *k*; *l* is a hinge, by which the lower part of the perineum spring is at any time drawn forward or turned aside and again secured firmly in its place by means of the flat turning nut (*m*), passing through a slit in the spring.

Figure 2 is a side view of the perineum spring (*h*), showing its curvation forwards over the pubes, and inwards towards the perineum, with its regulating holes, hinge (*l*), pad (*i*), and mode of shifting at (*m*).

Figure 3 is a view of the back pad with double perineum strap, to be used (if preferred) in lieu of the spring (Figure 2). (*m*), the back pad; (*n, n*), two rings on centres, through which the ends of the belt is passed, and then



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carried forward and fastened to the shield (as in Figure 1); *o, o*, is a double strap, the length of which is regulated by the buckles *p, p*, on the back pad. These straps are carried downwards and forwards along the perineum and crossing over at the point where the pad (*q*) is required to be placed, they  
 5 button in the front of the shield on the studs (*r, r*, Figure 1); *s* is a small pad, made to slide on the perineum straps behind for the purpose of keeping them apart. The perineum pad is of caoutchouc, suitably formed. This apparatus is also applicable to prolapses ani, either by an extension of the perineum spring, or by altering the position of the pad on the straps backward  
 10 to the rectum.

Having thus described the mechanical structure and combination of the parts, I will explain some of the characteristics of the Invention, by which the object and extent of the Invention will readily be ascertained; and, first, of the trusses in Plate 1, the belt of which is passed round the  
 15 person about the hips, and effects the requisite pressure on the truss pad by the agency of certain loops or rings moving on centres, and attached to the said pad by a plinth, and the requisite pressure (if desired) is further assisted and rendered equable by the use of elliptical spring extended over the length of the pad plate, and interposed between it and the mecha-  
 20 nism of the belt (but this spring at no point touches the body); this peculiar mode of attaching the belt to the pad allows the belt to assume the proper inclination downwards towards the lower margin of the pelvis, accomodating itself to the respiratory undulations of the abdomen, while it yields to the varied motions of the body without the smallest liability to displace the pad,  
 25 and thus the patient is relieved from all anxiety respecting its retaining its correct position; and, secondly, this truss combines an unequalled accuracy of position of the pad with a power of being regulated by means of the regulating plate to any requisite or desirable inclination, either vertical, oblique, or horizontal, as may be most conducive to the comfort of the patient or the  
 30 circumstances of the case.

The prophylactic belt is an elegant instrument, peculiarly adapted for the use of those who from constitutional debility or other causes are predisposed to hernia. To members of the army and sportsmen this belt will prove very valuable, as from its compact form it is imperceptible while on the person,  
 35 and may be readily put on or off; while, from the peculiar mechanism of the belt, it freely accomodates itself to the requisite position for effecting pressure over either groin, and efficiently sustains the parts liable to injury.

*The umbelical shield.*—This shield and its apparatus are intended to



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support the abdominal viscera when, from a relaxation of tone in the hypogastrick muscles, they bear down into the pelvis, and thereby greatly tend to induce herniary protrusion, and which, where the disease is already developed, exasperates the symptoms and protracts the cure. This shield is made to accommodate itself to the outline of the abdomen by means of two springs secured 5 to its upper surface and curved inwards, and which springs, should hernia already exist or supervene, are adapted to make the requisite pressure on a pad inserted under their lower extremity, and thus this instrument combines the properties of an umbelical supporter with those of an efficient truss.

The hunting belt possess similar advantages to the "umbelical shield," and 10 is also convertible into a truss, it is intended to meet the wishes of such who may prefer this particular form of bandage. The two flat elastic springs are stitched within the materials of the belt and curved over the abdomen; the two extremities of the belt are carried around the hips to the back, on which is placed a small light pad over the os sacrum; on this pad are two rings or 15 metal loops moving on centres, through these are passed the said ends of the belt, which are returned forwards and buckled in front.

The ladies' belt is especially adapted for that comfort and support which is so desirable and necessary in the delicate circumstances of pregnancy or after acouchment; this belt is studiously contrived to accomplish the requisite 20 support in the proper direction gently upwards and inwards, not only by a peculiar form in the belt itself over the abdominal surface, but also by the use of a strengthening pad placed on the back, to which is attached two metal rings made to move on centres, which while they yield to the free motion of the body, gives to the belt the required inclination forwards 25 and downwards, and by this means the broad part of the belt retains its position, and sustain efficiently and comfortably the lower part of the abdomen. This unique belt fits so compactly on the person as not to interfere with the stays, and need not be removed at night. It will be seen from the foregoing descriptions of the various trusses and bandages, an im- 30 portant improvement will be found in the mode of affixing the pads, owing to the employment of adjusting plates, as herein shown and described, whereby the pad, which is oblong, can be set and securely affixed in any required position in respect to the straps or bandages, and by the means of attaching the straps or belts to the adjusting plates, any requisite movement of the parts 35 will be obtained to accomodate the pads to the person when respiring or moving. And further, in respect to other of the trusses and bandages, the modes of combining the parts of the pads and shields, and the means of con-



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necting them with proper bandages or straps, will be found very advantageous ; and I would have it understood that I lay no claim to any of the parts of trusses or bandages which are well known and in use, such as the pads and the belts or bandages when separately considered ; but what I claim are the  
 5 modes of constructing and applying the various parts of the apparatus to the pads, and also the means by which the straps or bandages are connected thereto ; and I also claim the modes of arranging the different construction of shields shown in various Figures of the Drawing, and the means of attaching the straps or bandages thereto.

10 In witness whereof, I, the said Herbert Read Williams, have hereunto set my hand and seal, this Nineteenth day of August, in the year of our Lord One thousand eight hundred and thirty-nine.

HERBERT READ (L.S.) WILLIAMS.

AND BE IT REMEMBERED, that on the Nineteenth day of August, in  
 15 in the year of our Lord 1839, the aforesaid Herbert Read Williams came before our said Lady the Queen in Her Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

20 Inrolled the Twenty-first day of August, in the year of our Lord One thousand eight hundred and thirty-nine.

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 Printers to the Queen's most Excellent Majesty. 1857.







FIG. 2.

FIG. 1.

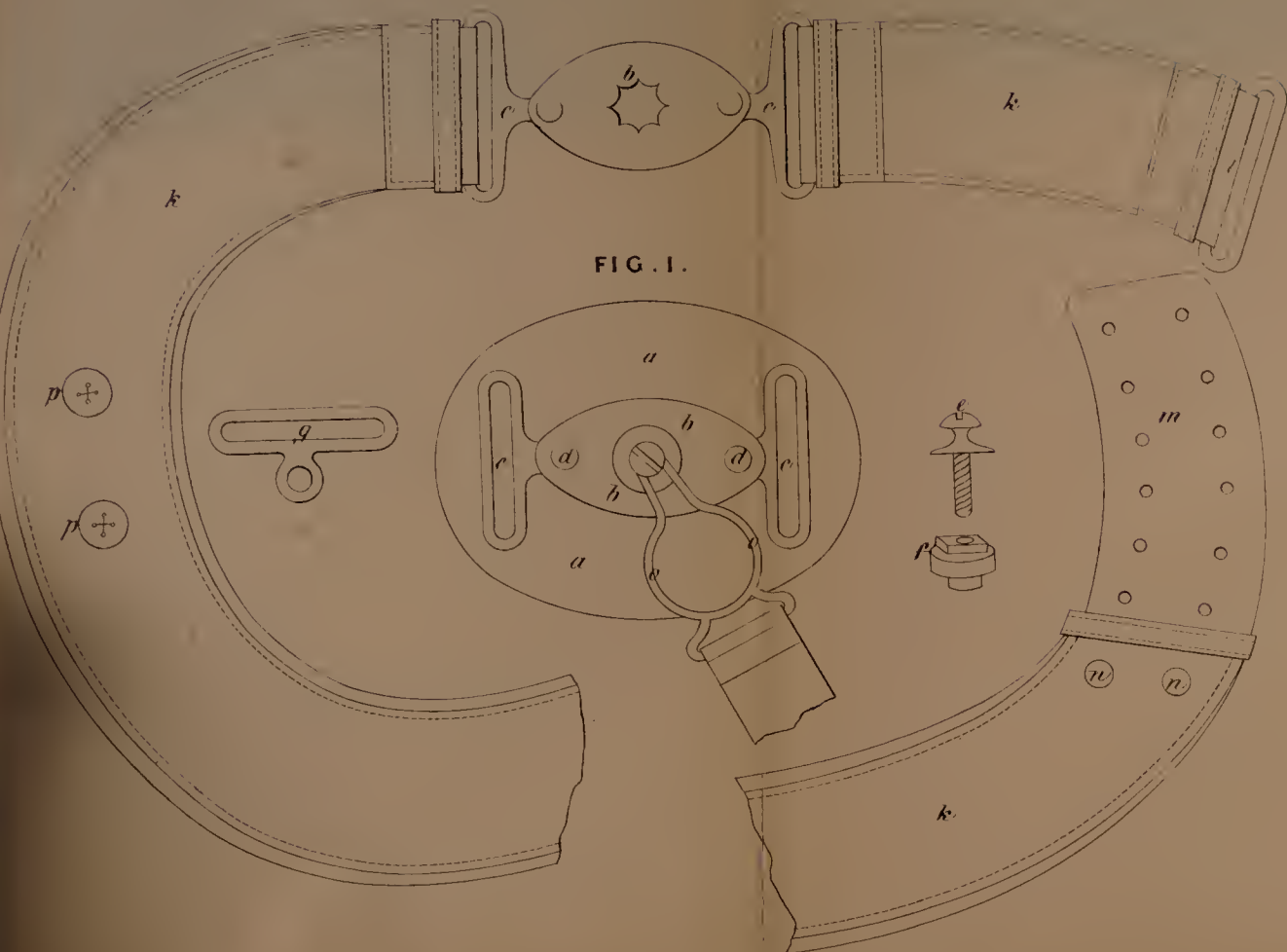


FIG. 3.

FIG. 4.

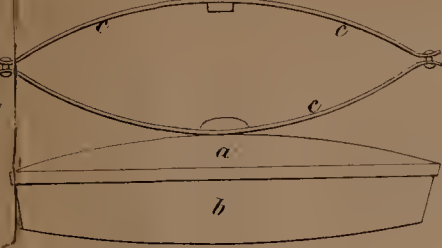
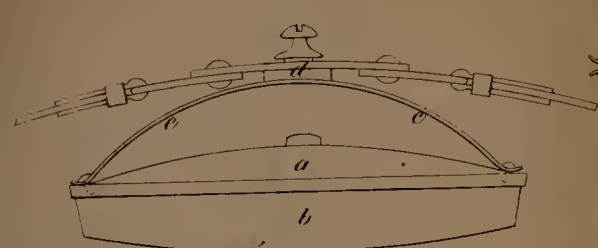


FIG. 5.

FIG. 6.

FIG. 7.

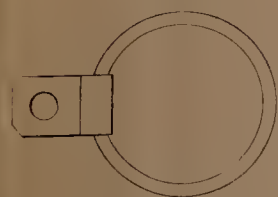
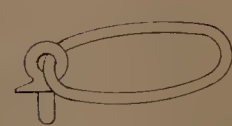


FIG. 8.



FIG. 1.

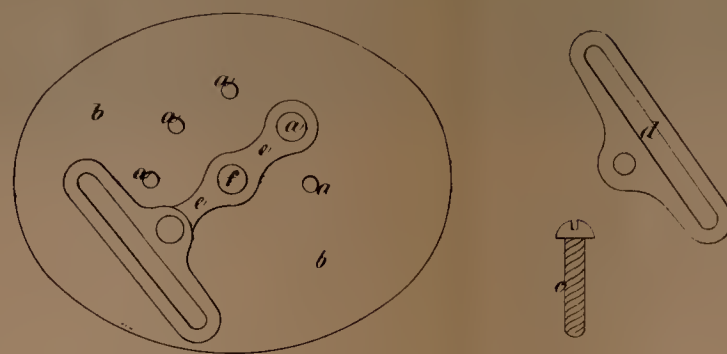


FIG. 2.

FIG. 3.

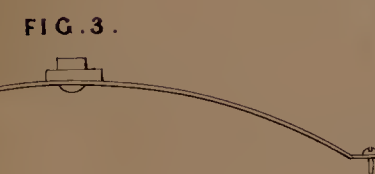
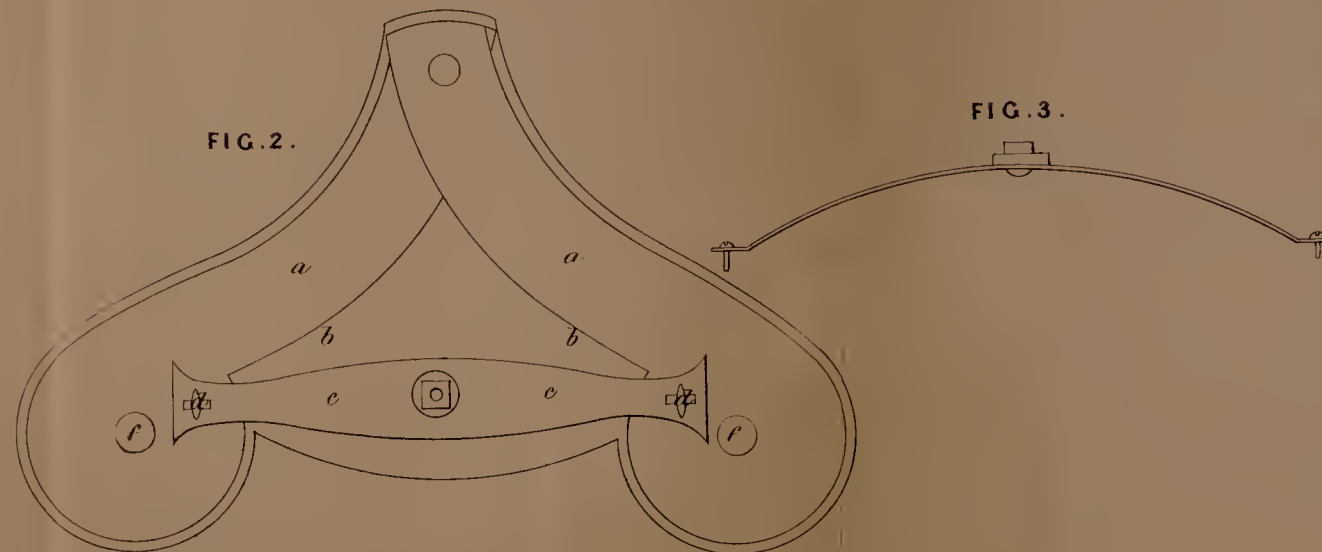


FIG. 4.

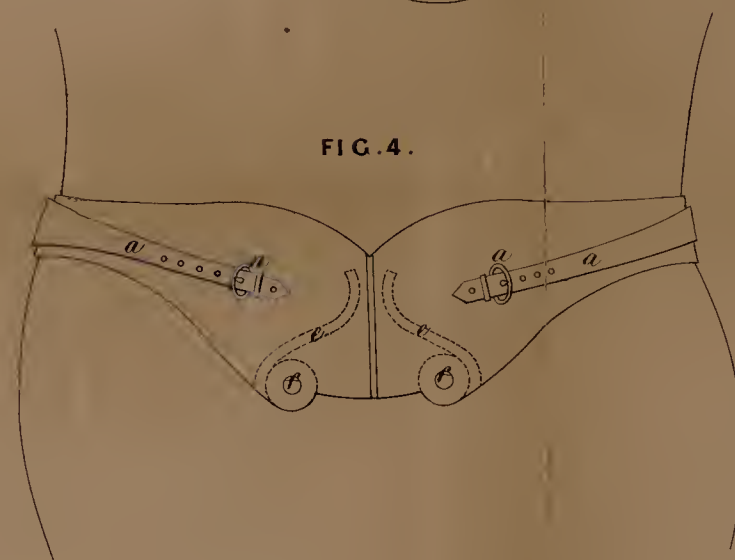


FIG. 5.

FIG. 6.

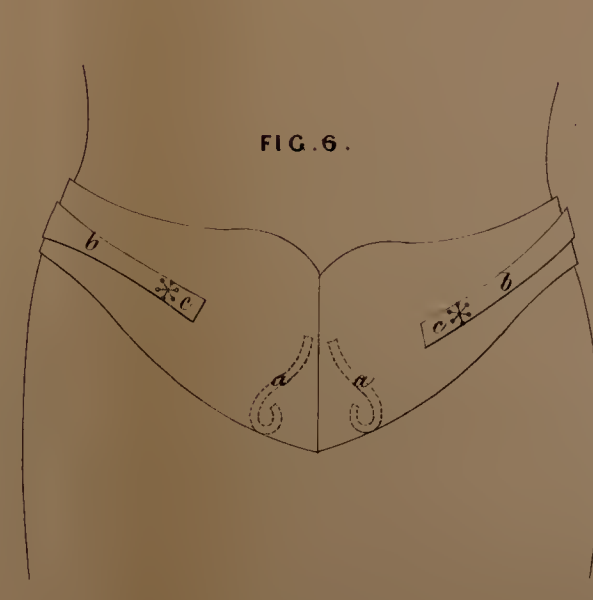
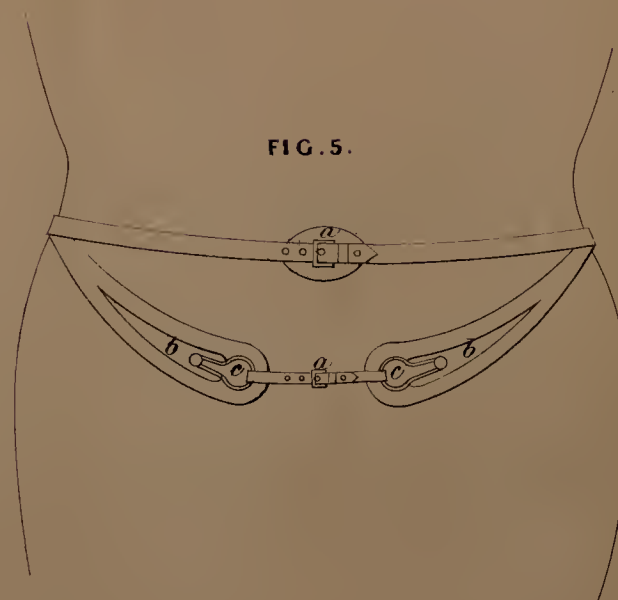


FIG. 1.



FIG. 3.

FIG. 2.

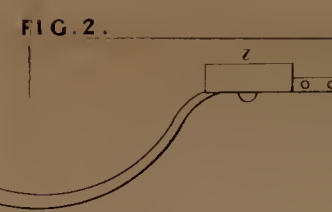
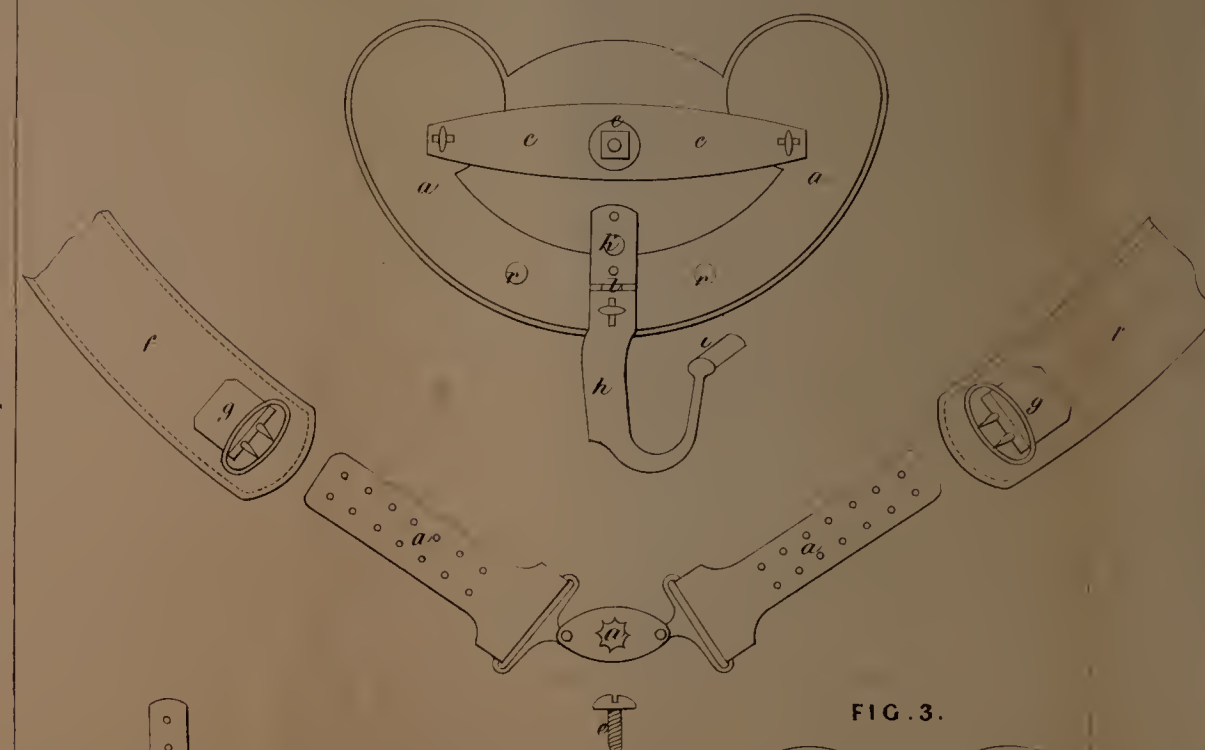


FIG. 7.

